



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,578	03/28/2001	Ahmed A. Busnaina	837BUS-X	3505

7590 09/29/2003
James Marc Leas
37 Butler Drive
S. Burlington, VT 05403

EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,578

Applicant(s)

BUSNAINA, AHMED A.

Examiner

Alexander Markoff

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18,21-23,41-50 and 52-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18,21-23,41-50 and 52-79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 6/20/03 fails to comply with 37 CFR 1.97(c) because it lacks the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The specification as amended references to Fig. 8 as Fig. 8a-8b. It is noted that there is no figures 8a or 8b presented. It is noted that Figure 8 consists of two parts. Should these parts be labeled as Figure 8a and Figure 8b? A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The proposed drawing correction of Figures 1a and 1b filed on 6/20/03 is approved.

Corrected drawings are required.

Response to Amendment

4. The applicants filed an amendment on 6/20/03. This amendment canceled claims 19 and 20. The applicants also filed an amendment on 7/11/03 to fix errors incorrectly canceling claims 19 and 20. It is noted that the applicants have not filed new claims

Art Unit: 1746

corresponding canceled claims 19 and 20. Claims 19 and 20 have been canceled by the amendment filed on 6/20/03 and could not be reinstated.

5. The amendments filed 6/20/03 and 7/11/03 are objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure is as follows: the applicants have introduced a negative limitation to the disclosure, which excludes the transducers and energy perpendicular to the active surfaces. The applicants also introduced a statement that individual transducers of the array transmit their energy at various angles. The original disclosure fails to support such limitations.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-18, 21, 22 and 41-50, 52-58, 77 and 79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicants have introduced in the claims a negative limitation, which is not supported by the original disclosure. See explanation above.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 6, 10, 12, 14-18, 21, 23, 41-44, 49, 52, 55, 56, 59-62, 64, 68, 70, 72-79 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al (US Patent No 5,203,798).

Watanabe et al teach a method and apparatus as claimed. See entire document, especially Figures 1, 5 and 6 and the related description.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 5, 11, 45, 63, 69 rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US Patent No 5,203,798).

As to claims 5, 45, and 63:

Watanabe et al do not specifically teach the spacing being in the claimed range. The document is silent regarding the specific size of the spacing. However, Watanabe et al teach the spacing as a result effective variable. See at least Fig. 3 and the related description. It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum size of the spacing in Watanabe et al by routine experimentation in order to enhance the cleaning.

Art Unit: 1746

As to claims 11 and 69:

Watanabe et al do not specifically teach the claimed rate for fluid flow.

However, Watanabe et al teach the rate of 50 cm/sec. It is believed that this disclosed rate is inside of the claimed rate because the substrates to be cleaned in Watanabe et al would obviously be less than 50 cm and because the shown size of the of the container is comparable with the size of the substrates.

On the other hand, Watanabe et al teach the flow as a result effective variable.

Thereby it would have been obvious to an ordinary artisan at the time the invention was made to find an optimum flow rate by routine experimentation in order to enhance the cleaning.

12. Claim 7-9, 46-48, 50, 57, and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al in view of JP 5-13396

Watanabe et al do not teach the claimed power and power density of the transducer. They are silent regarding the power.

However, JP 5-13396 teaches that power and the power density is a result effective variable and teaches that the claimed range for these parameters was conventional in the art. See entire reference, especially part [0012].

It would have been obvious to an ordinary artisan at the time the invention was made to provide the transducers in Watanabe et al with a power and power density disclosed by JP 5-13396 in order to ensure the adequate cleaning of the substrates.

Watanabe et al do not teach vertical orientation of transducers.

However, JP 5-13396 teaches that such orientation of transducers was conventional in the art.

Thereby it would have been obvious to an ordinary artisan at the time the invention was made to orient the transducers and substrate moving means vertically with reasonable expectation of adequate results in order to simplify the handling of the substrates for further processing if such is required.

13. Claims 13, 22, 54, 58, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al in view any one of Dussault et al (US Patents 4,979,994 and 5,037,208) and Ogata et al (US Patent No 5,333,628).

Watanabe et al do not specifically teaches that the transducers are completely immersed.

However, complete immersing of the transducers was conventional in art as evidenced by Dussault et al and Ogata et al.

It would have been obvious to an ordinary artisan at the time the invention was made to completely immerse the transducers in Watanabe et al with reasonable expectation of adequate results in order to better use the power of the transducers.

Response to Arguments

14. Applicant's arguments with respect to claims 1-18, 21-23, 41-50 and 52 -79 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

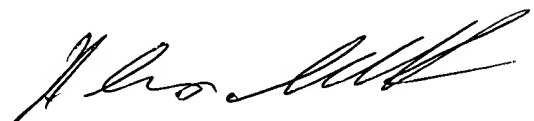
15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P Gulakowski can be reached on 703-308-4333.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703--308-0651.



Alexander Markoff

ALEXANDER MARKOFF
PRIMARY EXAMINER

Application/Control Number: 09/819,578

Page 8

Art Unit: 1746

Primary Examiner
Art Unit 1746

am